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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,111

11/16/2001

Arnab Das

15-19-15-2

3440

32498

7590

08/17/2006

CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC

ATTN: JOHN CURTIN

P.O. BOX 1995

VIENNA, VA 22183

EXAMINER

AGHDAM, FRESHTEH N

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/991,111	DAS ET AL.	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Response to Arguments***

Applicant's arguments, see page 5, filed 6/2/2006, with respect to the rejection(s) of claim(s) 1, 3-11, and 13-14 under Kim et al (US 6,438,119), and further in view of Rezaiifar et al (US 6,526,030) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kim et al, and further in view of the instant application's disclosed prior art. Applicant's argument with respect to claims 11-12 in view of Lee et al (US 6,621,873) has been fully considered but they are not persuasive.

**Applicant's Argument:** Regarding applicant's argument with respect to claims 11-12 on page 6, applicant argues "Lee is directed at puncturing "tail symbols" that do not appear to be part of signaling information; rather, they are used for error checking (i.e. Parity checking)."

**Examiner's Response:** In response to the argument with respect to claims 11-12 on page 6, Lee teaches providing different puncturing pattern on one frame period (Col. 6, Lines 32-37). Furthermore, Lee disclosed that one portion of the frame is punctured and the other portion of the frame is not punctured.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US 6,438,119), and further in view of the instant application's disclosed prior art.

As to claims 1 and 13-14, Kim teaches separately decoding a portion of the encoded signaling information (Fig. 5-9); and deriving transmission format information from the separately decoded portion of the encoded signaling information for the corresponding data transmission before a remainder of the encoded signaling information is decoded (Fig. 5-9; Col. 6, Lines 46- Col. 7, Line 19; Col. 15, Lines 58- Col. 16, Lines 2; table 4). Kim is not explicit about using a shared control channel for processing control information. The instant application's disclosed prior art discloses using a shared control channel for processing control information (Pg. 1, Lines 16-35). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the instant application's disclosed prior art with Kim in order to increase bandwidth efficiency by utilizing a shared control channel instead of a dedicated control channel.

As to claim 3, Kim teaches a dedicated control channel (Col. 1, Lines

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47-52; Col. 5, Lines 9-18) used by a plurality of mobile stations for communicating with a base station (Col. 5, Lines 9-18). The control channel is used to send signaling information (Col. 1 Line 47; Col. 2, Line 24; Col. 13, Lines 51-64; Col.15, Line 67; Col. 16, Lines 1-28).

As to claim 4, Kim teaches a method for processing control information, wherein the control information, or signaling information, includes: transport format and resource-related information about the frame length of the data transmitted (Col. 2, Lines 14-25; Col. 7, Lines 21 -49); and cyclic redundancy check information (Col. 2, Lines 26-34; Col. 7, Lines 21-33).

As to claim 5, Kim teaches a method for processing control information, wherein the control information includes transport format and resource-related information, which includes transmission format information, Kim teaches the transmission format information in the form of frame length of the data transmitted (Col. 2, Lines 14-25., Col. 7, Lines 21-49); allocated rate of the data transmitted; allocated duration of the data transmitted; message identifier, direction, and type; and channel use starting time (Col. 9, Lines 33-68; Table 3).

As to claim 6, Kim teaches a method for processing control information, wherein the control information includes transmission format information, which includes: code and modulation information in the form of type of code used: Walsh code, quasi-orthogonal code, Bi-phase Shift Keying, or Quadrature Phase Shift Keying (Col. 13, Lines 3-23); transport block set size information in the form of frame length of the data transmitted (Col. 2, Lines 14-25; Col. 7, Lines 21-49); and transport channel

identification information in the form of pilot channel information for estimating the channel gain and phase and for performing acquisition and handoff (Col.5, Lines 49-64); and channel identifier and a channel parameter (Col. 7, Lines 1-10); and channel use starting time (Col. 9, Lines 33-68; Table 3).

As to claim 7, Kim teaches transmission format information is separately decoded from the portion of the encoded signaling information (Col. 6, Line 46-; Col. 7, Line 19; Col. 15, Lines 58- Col. 16, Lines 28; Fig. 1-2; Table 4).

As to claim 8, Kim teaches convolutionally coding signaling information, and adding tail bits to the encoded signaling information (Col. 12, Lines 13-37).

As to claim 9, Kim teaches convolutionally coding signaling information, and selectively adding tail bits to the encoded signaling information (Col. 12, Lines 13-37).

As to claim 10, Kim teaches convolutionally coding signaling information and puncturing selected bits from the encoded signaling information (Col. 12, Line 65- Col. 13, Line 19).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and the instant application's disclosed prior art, further in view of Lee et al (US 6,621,873).

As to claims 11 and 12, Kim and the instant application's disclosed prior art teach all the subject matter claimed above, except for the puncturing of bits from the portion of the encoded signaling information that is separately decoded is less than the puncturing

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of bits from the remaining encoded signaling information. Lee teaches puncturing of bits from the portion of the encoded signaling information that is separately decoded is less than the puncturing of bits from the remaining encoded signaling information (Col. 6, Lines 7-43; Fig. 3-5) since Lee disclosed that the first portion of the frame is punctured and the second portion of the frame is not punctured. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Lee with Kim and the instant application's disclosed prior art in order to increase the decoding capability of the receiver, wherein one portion of the frame is punctured and the other portion of the frame is not punctured (Col. 6, Lines 32-37).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fredrich (US 2002/0044595) see paragraph 10.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Freshteh Aghdam  
August 8, 2006

  
**KEVIN BURD**  
**PRIMARY EXAMINER**